

Application No. 09/617,340
Amendment Dated March 2, 2004
Reply to Office Action dated December 23, 2003

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph on page 2, immediately after the heading "BACKGROUND OF THE INVENTION" with the following rewritten paragraph:

--This application is a continuation of U.S. application No. 09/176,439, filed on October 21, 1998, now U.S. Patent No. 6,099,504, entitled An Improved Automatic Syringe Pre-Filled Injection Delivery Device, which claims the benefit of U.S. Provisional Application No. 08/956,237 (regular application converted to provisional on October 20, 1998) 60/135,509, filed on October 20, 1998 which was converted from utility application No. 08/956,237 filed on October 22, 1997, which is assigned to the same assignee as this invention, and whose disclosure is incorporated by reference herein.- -

Please replace the paragraph at page 11, lines 13-14 with the following rewritten paragraph:

- Fig. 8 is a perspective view of a spring used in the syringe of Fig.1; and - -

Please replace the paragraph at page 11, line 15 with the following rewritten paragraph:

- Fig. 9 is a perspective view of the syringe of Fig.1[.];

Please add the following new paragraphs after line 15 on page 11:

- FIG. 10 is a sectional view of a first alternative embodiment of the present invention; and
FIG. 11 is a sectional view of a second alternative embodiment of the present invention.- -

Please add the following new paragraphs after line 2 on page 16:

--FIG. 10 shows a first alternative embodiment of the present invention. It is similar to the syringe described in detail above except that it has a needle cover different from that shown in FIG. 1. FIG. 10

shows a needle cover 40 shaped to fit over the needle 15. The needle cover also has a radial groove 41 located at the opposed end of the needle on the exterior of the cover. The needle cover 40 and sleeve 20 are covered by a cap 42. The cap 42 has an interior groove 43 that matingly receives the radial groove of the needle cover 40 when the cap is placed over the needle cover 40 and sleeve 20. The cap 42 maintains the sterility of the needle 15 until removal of the cap. When the cap 42 is pulled off the syringe prior to use, the mating pair of grooves cause the needle cover 40 to be pulled off at the same time. When the cap 42 is placed back over the sleeve 20, the needle cover 40 is also placed over the needle 15 to further avoid contamination and/or leakage of any remaining residue left within the syringe 10.

FIG. 11 shows a second alternative embodiment of the present invention. FIG. 11 is similar to the embodiment shown in FIG. 10 but has a different cap 44 and needle cover 45. The cap 44 has an outer lip 46 that rests over the open end 19 of the barrel 11. The needle cover 45 is cylindrical in shape and covers the needle 15 and maintains its sterility until use. Prior to use, the user must first remove the cap 44, and then remove the needle cover 45. After use, the user must replace the needle cover 45 and then the cap 44 separately. - - .

Please add the following new paragraphs after line 12 on page 16:

--It is further appreciated that the present invention may be used to deliver a number of drugs. The term "drug" used herein includes but is not limited to peptides or proteins, hormones, analgesics, anti-migraine agents, anti-coagulant agents, narcotic antagonists, chelating agents, anti-anginal agents, chemotherapy agents, sedatives, anti-neoplastic agents, prostaglandins and antidiuretic agents.

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Typical drugs include peptides, proteins or hormones such as insulin, calcitonin, calcitonin gene regulating protein, atrial natriuretic protein, colony stimulating factor, betaseron, erythropoietin (EPO), interferons such as .alpha., .beta. or .gamma. interferon, somatropin, somatotropin, somastostatin, insulin-like growth factor (somatomedins), luteinizing hormone releasing hormone (LHRH), tissue plasminogen activator (TPA), growth hormone releasing hormone (GHRH), oxytocin, estradiol, growth hormones, leuprolide acetate, factor viii, interleukins such as interleukin-2, and analogues thereof; analgesics such as fentanyl, sufentanil, butorphanol, buprenorphine, levorphanol, morphine, hydromorphone, hydrocodone, oxymorphone, methadone, lidocaine, bupivacaine, diclofenac, naproxen, paverin, and analogues thereof; anti-migraine agents such as sumatriptan, ergot alkaloids, and analogues thereof; anti-coagulant agents such as heparin, hirudin, and analogues thereof; anti-emetic agents such as scopolamine, ondansetron, domperidone, metoclopramide, and analogues thereof; cardiovascular agents, anti-hypertensive agents and vasodilators such as diltiazem, clonidine, nifedipine, verapamil, isosorbide-5-mononitrate, organic nitrates, agents used in treatment of heart disorders, and analogues thereof; sedatives such as benzodiazepines, phenothiazines, and analogues thereof; chelating agents such as deferoxamine, and analogues thereof; anti-diuretic agents such as desmopressin, vasopressin, and analogues thereof; anti-anginal agents such as nitroglycerine, and analogues thereof; anti-neoplastics such as fluorouracil, bleomycin, and analogues thereof; prostaglandins and analogues thereof; and chemotherapy agents such as vincristine, and analogues thereof.- -